



Security advice:

- Do not use any components if looking damaged!
- Do not use any other cables than supplied with the system!
- Do not look directly into the camera from short distance (<30cm) for a longer period of time (>30sec)!

1

Included in delivery

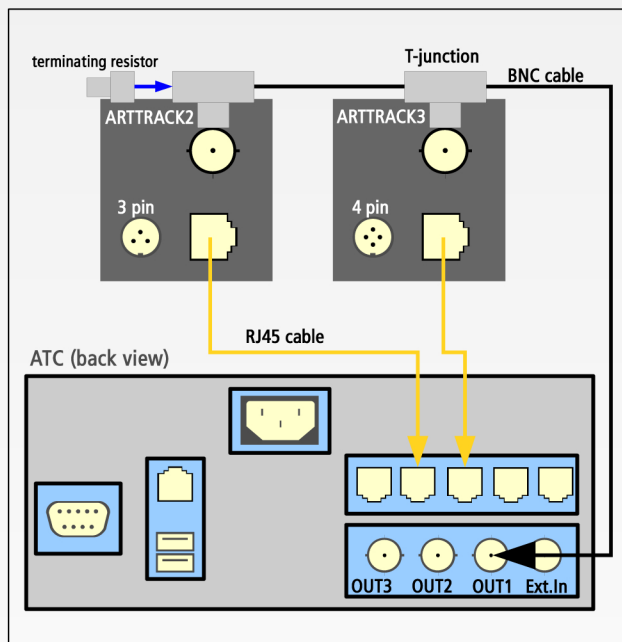
- ✓ per ARTRACK2/3 camera:
 - ✓ 1 power cord and power supply
 - ✓ 1 ethernet cable
 - ✓ 1 BNC cable
 - ✓ 1 BNC T-junction and terminating resistor(s) (max. 3)
 - ✓ 1 ceiling suspension D2
- ✓ 1 ARTRACK Controller
- ✓ 1 DTrack2 frontend software
- ✓ 1 room calibration set
- ✓ 2 standard bodies/targets

Important note:

The tracking system is very sensitive to camera movements. Therefore, the cameras have to be mounted in a way that reduces camera movements (especially vibrations). A camera rotation of just 0.1° will make camera data worthless for tracking in most cases.

1

Mount the cameras at the desired position before connecting the cables! Feel free to contact ART in case you want to realize a more complex installation. We will assist you in your planning. Connect the ARTRACK2/3 cameras with the ARTRACK Controller (ATC) using the BNC and the RJ45 cables.



Synchronization:

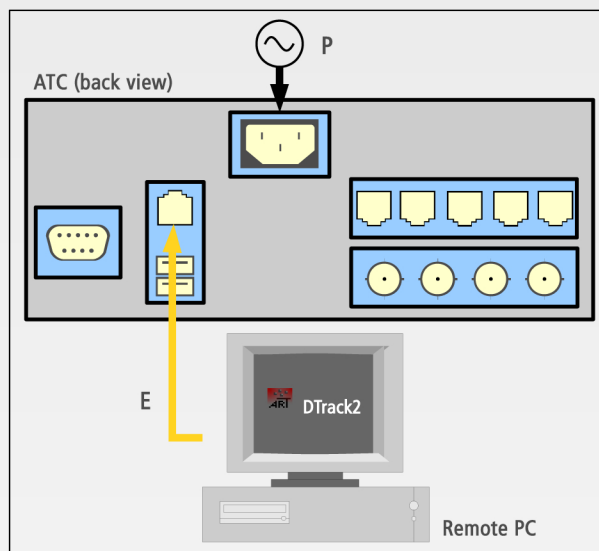
Default setting is internal synchronization. Some applications (e.g. active stereo projection) require external synchronization. Use the "Ext.In" BNC plug as external synchronization input. In DTrack2, select "Settings" → "Synccard". You can select the type of synchronization which fits to your application out of "supported synccard modes".

If you want to avoid mutual blinding of cameras, you may use different sync groups. Please refer to the user manual for more details.

2

➤ **WARNING:** All cables have to be connected before powering up the system! The ATC will be switched on when the power plug is connected and the power switch is pressed!

The ATC is controlled by a remote PC via DTrack2 frontend software (for software installation guide please refer to user manual). When delivered, the ATC is set up to support DHCP. Connect ethernet (E) and power plug (P).

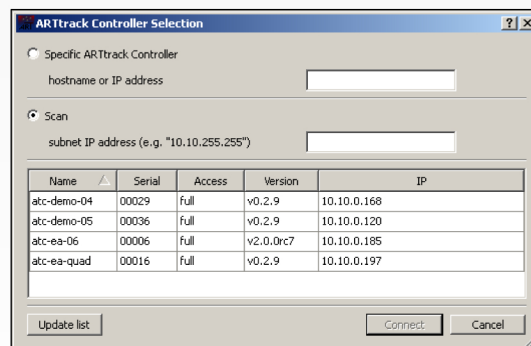


Press the switch on the front side of the ATC to start it. If the ATC is booting without connected ethernet cable or if a DHCP server is not available, it will use its standard IP address (192.168.0.1) and subnet mask (255.255.255.0).

It is possible to configure the IP address of the ATC without the DTrack2 Frontend. You only need a standard USB flash drive (FAT32 formatted) on which you save a setup file (for the format please refer to the user manual) and plug it into the ATC.

3

Start DTrack2 on the remote PC. You can either address your ATC directly (via hostname or IP address) or scan the network in order to find your ATC. You can identify your ATC by the serial number which is printed on the label. Select the appropriate ATC and press "Connect".

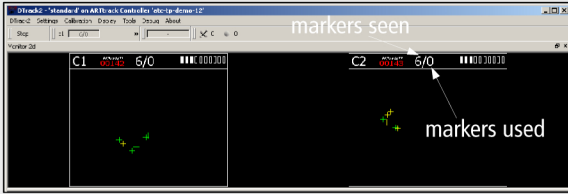


4

Room calibration:

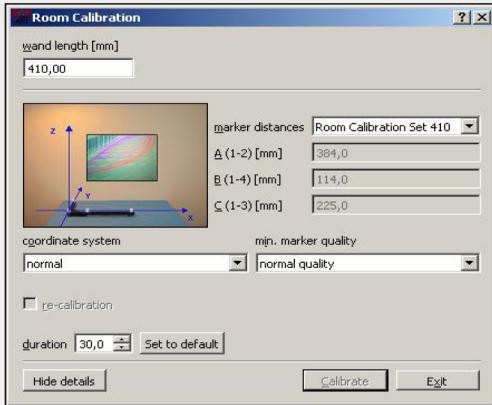
Select "Calibration" → "Room".

The "Monitor 2DOF" view is started in the background. All cameras should see four markers (→ angle) plus two belonging to the wand (i.e. markers seen = 6). Other reflections have to be eliminated before starting the room calibration (i.e. markers seen > 6). Please refer to the user manual for more details.



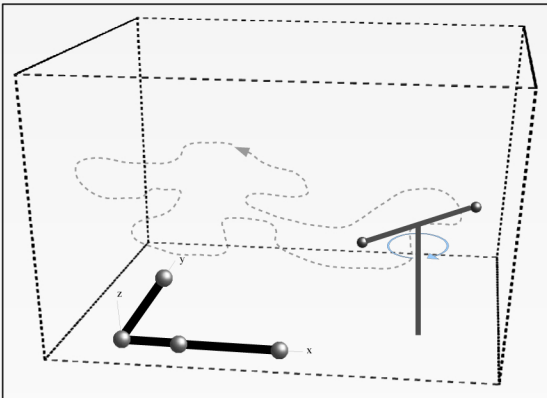
Enter values for room calibration:

- > wand length ... see label on the wand
- > marker distances ... room calibration set 410 / 710
- > coordinate system ... according to your setup
- > min. marker quality ... normal quality (recommended)



Press "Calibrate" and the calibration starts within 5 seconds.

Move the wand gently in the measurement volume, in order to generate a virtual point cloud. This point cloud should fill at least about two thirds of the measurement volume. It is used for calculation of IR cameras positions. So, moving the wand in only a very small volume will result in reduced accuracy of calibration.



After a successful room calibration, the DTrack2 info window with the calibration results is displayed. The number of valid frames should be greater than 70% for each camera.

5

Body calibration:

Define the desired number of rigid bodies in "Settings" → "Tracking" → "number of 6DOF standard bodies".

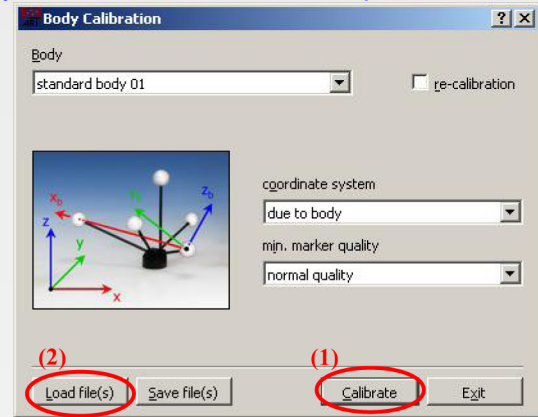
You can either perform a body calibration with the tracking system (1) or load a body file (2).

(1) Place the body within tracking range of the cameras. The cameras should see each marker of the body. Remove disturbing reflections before starting the calibration. Please refer to user manual for more details.

Select "Calibration" → "Body" and define the orientation of the body coordinate system relative to the body.

Press "Calibrate" → the calibration starts within 5 seconds

(2) In DTrack2, select "Calibration" → "Body" → "Load file(s)" (body calibration files are available on request)



6

Output settings:

Now, that you have set up the tracking system correctly, it is time to define where the data has to be sent to.

In DTrack2, select "Settings" → "Output". You can either select "this computer" (remote PC) or enter an IP address of the computer you want to send data to. By ticking the checkboxes you can define the data to be transmitted.

Press "Start" to start measurement.